

AD-A206 251

LOGISTICS IMPLICATIONS
OF MANEUVER WARFARE
VOLUME 4: ARMS CONTROL

Report IR702R4

September 1988

Frans Nauta

Prepared pursuant to Department of Defense Contract MDA903-85-C-0139.
The views expressed here are those of the Logistics Management Institute at
the time of issue but not necessarily those of the Department of Defense.
Permission to quote or reproduce any part must - except for Government
purposes - be obtained from the Logistics Management Institute.

LOGISTICS MANAGEMENT INSTITUTE
6400 Goldshoro Road
Bethesda, Maryland 20817-5886

This document has been approved
for public release and sales in
distribution is unlimited.

DTIC
ELECTE
S 3 APR 1989 D
a E

89 4 03 040

PREFACE

As part of its FY87 independent research and development program, the Logistics Management Institute (LMI) examined the logistics implications of a new maneuver-oriented operational concept – AirLand Battle – being adopted by the U.S. Army.

LMI undertook this study for three reasons. First, even though more than 5 years have passed since AirLand Battle was promulgated as formal Army doctrine, misperceptions and uncertainties about its execution still exist. Second, neither the Army nor the Defense community has yet developed a good understanding of the implications and ramifications of AirLand Battle. Third, and most important, the combat service support requirements, which largely determine the extent to which AirLand Battle doctrine can be executed, are not well defined or understood.

The results of this study are presented in six volumes. Volume 1 sets the stage for the examination of AirLand Battle doctrine and lays out the focus and scope of the study; Volume 2 reviews NATO's defense posture, including operational concepts and capabilities; Volume 3 describes the military command structure, operational concepts, and capabilities of the Soviet Union; this volume, ~~Volume 4~~ ^{Volume 4}, summarizes the various arms control negotiations that have taken place between East and West to solve NATO's security problem peacefully; Volume 5 illustrates the need for NATO to shift toward a maneuver-oriented defense concept, analogous to AirLand Battle doctrine, if it is to maintain a credible conventional defense; and Volume 6 details the specific logistics improvements that are required to support maneuver defense in a NATO environment. The material in these volumes is interrelated so the reader is cautioned not to interpret individual volumes as stand-alone documents.



Accession For	
NTIS	GPA&I <input checked="" type="checkbox"/>
DTIC	TAB <input type="checkbox"/>
Unannounced <input type="checkbox"/>	
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

CONTENTS

	<u>Page</u>
Preface	iii
Logistics Implications of Maneuver Warfare	
Volume 4: Arms Control	1
Conventional Forces	1
Background	1
Mutual Balanced Force Reduction	6
Conference on Security and Cooperation in Europe	10
Prospects for Conventional Arms Control	13
Chemical Weapons	15
Theater Nuclear Forces	17
The INF Issue	18
The INF Debate and NATO's Decision	23
The Measurement Problem	29
Aftermath and INF Negotiations	32
Allied Concerns	40
Epilog	42

LOGISTICS IMPLICATIONS OF MANEUVER WARFARE

VOLUME 4: ARMS CONTROL

In view of the approximate parity in strategic weapons between the Soviet Union and the United States, conventional forces, chemical weapons, and theater nuclear forces have taken on added importance. This volume summarizes the various negotiations that have occurred in recent years on those tactical weapons. Its purpose is to establish a baseline on how current and anticipated arms control agreements influence NATO's need for a highly capable, maneuver defense force and to reemphasize that military stability cannot be created by arms control alone, but requires NATO defense improvements as well.

CONVENTIONAL FORCES

Arms control talks involving conventional forces in Europe essentially have followed two separate tracks: Mutual Balanced Force Reduction (MBFR) negotiations and the Conference on Security and Cooperation in Europe (CSCE) process. Both have the same ultimate aims: reduction of tensions between East and West and development of a more stable relationship to strengthen peace and security in Europe. Their approaches, however, are very different; MBFR, a Western initiative, is a "structural" approach (seeking to reduce military forces), while CSCE, a Soviet initiative, is an "operational" approach (seeking to establish guidelines on the conduct of military activities).¹ In this section, we present a chronology and assessment of these talks.

Background

NATO's interest in exploring mutual force reductions dates back to the mid-1960s when high inflation caused member countries to look for ways to reduce the cost of defense and critics began to question the future role of NATO in view of the

¹This distinction is emphasized by Richard E. Darilek, "The future of conventional arms control in Europe — a tale of two cities: Stockholm, Vienna," *Survival*, Jan/Feb 1987, pp. 5–20. Making this distinction is common practice; see, for example, the chapter on Arms Control in *Strategic Survey 1986–1987*, London: The International Institute for Strategic Studies, Spring 1987.

perceived changes in international conditions from Cold War to the "warming climate" of détente. In its December 1966 Ministerial Meeting in Paris, the North Atlantic Council adopted a resolution, at the instigation of the Belgian Government, "to undertake a broad analysis of international developments since the signing of the North Atlantic Treaty in 1949 . . . to determine the influence of such developments on the Alliance and to identify the tasks which lie before it, in order to strengthen the Alliance as a factor for a durable peace." (A similar initiative of the Canadian Government in December 1964 was unsuccessful because of several other pressing issues at the time: discord in Cyprus, the sudden replacement of Soviet Premier Nikita Khrushchev in October, China's test of its first atomic bomb in October, and Malta's attaining independence and the resulting problem for NATO facilities and forces located there.)

The committee charged with conducting the analysis recommended by Belgium was chaired by Belgian Foreign Minister Pierre Harmel and issued its report 1 year later.² Commonly known as the "Harmel Report," it was adopted unanimously by all 15 NATO nations in the December 1967 Ministerial Meeting of the North Atlantic Council in Brussels. That report asserted the Atlantic Alliance has two main functions: the first is "to maintain adequate military strength and political solidarity to deter aggression and other forms of pressure and to defend the territory of member countries if aggression should occur"; the second is "to pursue the search for progress towards a more stable relationship in which the underlying political issues can be solved." Although these assertions were not new (just a slight rewording of the text of the North Atlantic Treaty signed 4 April 1947 in Washington, D.C.), the document offered the following perspective:

Military security and a policy of detente are not contradictory but complementary. Collective defense is a stabilizing factor in world politics. It is the necessary condition for effective policies directed towards a greater relaxation of tensions. The way to peace and stability in Europe rests in particular on the use of the Alliance constructively in the interest of detente. The participation of the USSR and the USA will be necessary to achieve a settlement of the political problems of Europe.

The Harmel Report identified two specific tasks: one was of a military nature — the defense of exposed areas, particularly the Mediterranean where events

²*The Future Tasks of the Alliance*, Report to the Council, Dec 1967; summary document promulgated as Annex to the Final Communiqué of the Ministerial Meeting, Brussels: NATO Information Service, 14 Dec 1967.

in the Middle East had led to an expansion of Soviet activity — and the other was of a political nature — the formulation of proposals for balanced force reductions in East and West. The latter task went well beyond NATO's passive interest in force reduction first expressed explicitly 6 months earlier in the June 1967 Ministerial Meeting in Luxembourg, with the following statement in its final communiqué:

If conditions permit, a balanced reduction of forces by the East and West could be a significant step toward security in Europe. A contribution on the part of the Soviet Union and the Eastern European countries towards a reduction of forces would be welcomed as a gesture of peaceful intent.

The Harmel Report, as Stanley Sloan has pointed out, made an important contribution to the Alliance.³ With a dual strategy of deterrence and détente, it provided an intellectual and political framework for policies accommodating the growing dissension between left and right; it broadened the base of support for NATO by bridging the opposite views on the East-West politico-military situation; and it reemphasized NATO consultations as a means to coordinate Western initiatives. That last effect alleviated European concerns about the bilateral strategic arms control discussions between the United States and the Soviet Union and U.S. concerns about the potential impact of the Soviet "peace campaign" on NATO's cohesion. Six months later, at its June 1968 Ministerial Meeting in Reykjavik, Iceland, the Council issued a "Declaration on Mutual and Balanced Force Reductions," announcing NATO's readiness to explore practical steps in arms control, confirming an agreement on the desirability of initiating "a process leading to mutual force reductions," and inviting the Soviet Union and other countries of Eastern Europe "to join in this search for progress towards peace." This historic declaration became known as the "Reykjavik Signal," which marked NATO's formal entry into the world of arms control initiatives. It included the following stated principles for approaching the problem of MBFR:⁴

- Mutual force reductions should be reciprocal and balanced in scope and timing.

³Stanley R. Sloan, *NATO's Future: Toward a New Transatlantic Bargain* (Washington, D.C.: National Defense University Press, 1985).

⁴North Atlantic Council, Final Communiqué of the Ministerial Meeting, 25 Jun 1968. Reproduced in *NATO Final Communiqués, 1949–1974*, Brussels: NATO Information Service, 1975.

- Mutual reductions should represent a substantial and significant step, serving to maintain the present degree of security at reduced cost, but should not be such as to risk destabilizing the situation in Europe.
- Mutual reductions should be consonant with the aim of creating confidence in Europe generally and in the case of each party concerned.
- Any new arrangement regarding forces should be consistent with the vital security interests of all parties and capable of being carried out effectively.

NATO did not make any progress with this initiative for 4 years. The first setback was the Soviet invasion of Czechoslovakia in August 1968, 2 months after the Reykjavik Signal. The second setback was protracted and more fundamental: Soviet interest in its own proposals, not MBFR.

Soviet interest in exploring arms control also dates back to the mid-1960s. Prior to that time, their major interest had been to eliminate a potential German military threat by seeking to promote a Communist-controlled and neutralized Germany or to counter Western initiatives to rearm the Federal Republic of Germany (FRG) and integrate it into NATO.⁵ The "German question" had been, of course, the primary dispute between East and West as well as within NATO throughout NATO's first decade and well after the FRG's accession to NATO in 1955.

By the mid-1960s, the Soviets had shifted course toward seeking an agreement with the West that would formally recognize the post-World War II boundaries of Eastern Europe. They proposed a European security conference ostensibly to discuss measures for ensuring the "collective security" of Europe but actually to ratify both the Oder-Neisse border between Poland and the German Democratic Republic (GDR) and the permanent division of Germany into two states and to recognize the Warsaw Pact.⁶ These proposals were reiterated in a declaration by the March 1969 Warsaw Pact's Political Consultative Committee meeting in Budapest, inviting *all* European countries to join in a Conference on European Security. Subsequent Warsaw Pact meetings in October 1969 and May 1970 resulted in the presentation of additional proposals for negotiation at that conference.

⁵See John G. Keliher, *The Negotiations on Mutual and Balanced Force Reductions: The Search for Arms Control in Europe* (New York: Pergamon Press, 1980).

⁶See William B. Prendergast, *Mutual and Balanced Force Reduction: Issues and Prospects* (Washington, D.C.: American Institute for Public Policy Research, 1978).

The May 1970 NATO Ministerial Meeting in Rome resulted in a declaration of "willingness to enter into multilateral contacts of an exploratory nature . . . to establish when it would be possible to convene a conference or series of conferences on European security and cooperation." NATO ministers also expressed their disappointment about the absence of any meaningful reaction from Warsaw Pact countries on their MBFR declaration and reissued it with the invitation to Warsaw Pact and other countries concerned to join in exploratory talks "to identify criteria which could serve as a starting point for fruitful negotiation." The two sides thus continued to push their own proposals based on different goals: one side seeking to consolidate the status quo (Warsaw Pact), the other seeking force reductions (NATO). The impasse was finally broken by three parallel initiatives:

- *SALT I.* The Strategic Arms Limitations Talks (SALT) between the United States and the Soviet Union began in November 1969. An agreement was reached and signed at the May 1972 Moscow Summit Meeting. At that meeting, President Richard Nixon and Premier Leonid Brezhnev concurred that a Conference on Security and Cooperation in Europe should be convened without further delay and that NATO and the Warsaw Pact should reach an agreement on procedures for negotiating troop reductions.
- *Ostpolitik.* The Government of the FRG adopted a policy to improve its relations with its eastern neighbors. It embarked on bilateral negotiations in December 1969 with the Soviet Union (German-Soviet Treaty signed August 1970); in February 1970 with Poland (German-Polish Treaty signed December 1970); and in March 1970 with the GDR, which ultimately led to a treaty on the relations between FRG and GDR signed December 1972. The three treaties essentially accept the postwar boundaries and the status quo, and formally terminate the long-standing claims of the West Germans for a unified Germany.⁷
- *Berlin Agreements.* Quadripartite talks about the status of, and access to, Berlin began in March 1970 and resulted in a signed agreement September 1971. This Quadripartite Agreement among the United States, Soviet Union, UK, and France reaffirms Four Power responsibility for Berlin and ensures unimpeded civilian access between the Western sectors and the Eastern sector. This first written agreement on Berlin since the 1949 agreement terminating the Berlin blockade was intended to eliminate

⁷It is useful to emphasize that these treaties are bilateral and do not reflect American policy. The United States has never recognized the division of Europe as either lawful or permanent, and considers Soviet failure to honor its Yalta pledge to grant independence with free elections to Poland and other East-European countries as one of the primary causes of East-West tensions. See: Ronald Reagan, *National Security Strategy of the United States* (Washington, D.C.: The White House, Jan 1987).

repeated Soviet threats of another blockade (such as the Berlin crises in 1958 and 1959) and GDR "games" with traffic management and control. It went into effect in June 1972, following the completion of intra-German arrangements and signature of the final protocol.

While all three initiatives fostered détente, it was the superpower agreement that paved the way for making progress with the stalled MBFR and CSCE proposals.

Mutual Balanced Force Reduction

Formal negotiations began in October 1973 in Vienna under the title "Mutual Reduction of Forces and Armaments and Associated Measures in Central Europe." (In exploratory talks, the Eastern Bloc had rejected the term "balanced" and insisted that verification measures be referred to as "associated measures" to be discussed after agreement on force reductions had been reached.) The two sides agreed on the following principles:

- *Objective.* The negotiations are to contribute to a more stable relationship and to the strengthening of peace and security in Europe without diminishing the security of any party to the negotiations.
- *Reduction Zone.* The area of force reduction is the territory of seven countries: East and West Germany; the Benelux countries (Belgium, The Netherlands, and Luxembourg); Poland; and Czechoslovakia.
- *Participants.* Only those nations with troops in the reduction zone will be bound by any resulting agreement. Thus, "direct participants" are the above seven nations plus the United States, UK, Canada, and Soviet Union; other NATO and Warsaw Pact countries participating in the negotiations are classified as "indirect" or "special" participants (Norway, Denmark, Italy, Greece, Turkey, Hungary, Romania, and Bulgaria).

France refused to participate because of its belief that "operational" agreements logically should precede any "structural" agreements, and in the late 1970s, it made such proposals that ultimately led to a new conference on disarmament in Europe (see CSCE discussion below). In the meantime, however, France's absence caused problems in the MBFR negotiations since any agreement would have to account somehow for the 50,000 French troops on West German territory.

Disagreements between the two sides were clear from the start. The Warsaw Pact's position was that any reduction should involve both foreign and national forces within the reduction zone but should not disturb the existing balance of power in Central Europe. In contrast, NATO's position was that reductions should be

aimed at alleviating the existing force disparities in the reduction zone. NATO identified three key disparities: the Warsaw Pact's quantitative advantage in active-duty ground forces stationed in Central Europe; its large concentration of heavy armor (tanks); and its geographic advantage (any Soviet forces withdrawn from Central Europe could be returned in an emergency more quickly than any U.S. forces could, thus necessitating a greater reduction of Soviet forces to compensate).

At the opening round of the MBFR talks, NATO declared its ultimate aim was to reach equal strength in ground forces in Central Europe in the form of a common ceiling for both sides, supplemented with such measures as needed to prevent either party from circumventing the provisions of an agreement. Although NATO's opening position may have been logical and rational, it was of course irreconcilable with Soviet doctrine that insists on quantitative superiority in conventional forces (as well as nuclear forces) to ensure victory in the event of a NATO attack.

During 10 years and 36 rounds of negotiations, NATO made one concession after another to reach some type of agreement but with little result. Each proposal was met with a counterproposal that left little prospect for progress. NATO's opening proposal was for the Soviets to withdraw one Tank Army (68,000 troops, 1,700 tanks, and 8,700 major pieces of equipment such as infantry fighting vehicles, artillery pieces, air defense, and antitank systems), to the Soviet Union from the Group of Soviet Forces in Germany. In exchange, the United States would withdraw an equal proportion (15 percent) of its ground forces in West Germany (i.e., 29,000 troops) but leave the equipment in theater. The Soviets had no interest in that proposal. In December 1975, NATO offered to withdraw an additional 1,000 nuclear warheads and selected delivery systems (54 dual-capable F-4 aircraft and 36 Pershing IA missile launchers). Again the Soviets declined. In April 1978, NATO dropped its demand for Soviet withdrawal of a complete Tank Army; instead, it called for withdrawal of 68,000 troops and 1,700 tanks from any five Soviet divisions in East Germany. Once again, the Soviets declined. In December 1979, NATO gave up on its asymmetrical demand for Soviet but no U.S. equipment withdrawals and instead proposed a reduction of 30,000 Soviet troops versus 13,000 U.S. troops, leaving the armaments issue open. By this time, of course, NATO had already lost any bargaining advantage by deciding on withdrawing 1,000 nuclear warheads unilaterally as part of its theater nuclear force modernization program. (Those warheads were subsequently removed during calendar year 1980.) The

December 1979 NATO proposal also included for the first time a number of verification measures. Although the Soviets again declined, their negotiating position became more positive over the following 2 years. A breakthrough was achieved in 1982 when the East accepted the idea of a common collective manpower ceiling for each side, but basic disagreements continued in the areas of "database," armaments, and verification.

The database issue refers to the discrepancy between Western estimates of Warsaw Pact forces and those admitted by the Warsaw Pact: a difference of 174,700 active combat personnel.⁸ Part of this discrepancy can be attributed to the ambiguity in defining "active combat troops" (e.g., the 80,000 Polish troops that the Warsaw Pact claims are not active combat forces, and smaller discrepancies in East German and Czechoslovakian troops arising from problems in definition as well as uncertainty in intelligence estimates).⁹ But another portion of the discrepancy (about 50,000 Soviet troops) can be attributed to the Soviet's unwillingness to confirm that its divisions in Eastern Europe are at wartime manning levels. Rather than explaining this discrepancy, the Soviet response has been to accuse the West of exploiting this "artificial issue" to stonewall serious discussions of mutual manpower reductions.

Both sides consolidated their negotiating positions as of 1982 in the form of draft treaties: the Western draft of July 1982 and the Eastern draft of June 1983.

⁸Warsaw Pact active combat troops in the reduction zone include 962,000 ground personnel, by Western estimate, but the Warsaw Pact claims it has only 805,000; similarly, NATO estimates 200,000 Warsaw Pact air force personnel while the Warsaw Pact admits only 182,300. Data as of 1980 are reported in John. G. Keliher, op. cit., in Note 5. Another source reports the 1980 data discrepancy as follows: Warsaw Pact ground troops 956,000 by NATO estimate (including 475,000 Soviet personnel), but only 815,000 according to the Warsaw Pact (including 423,000 Soviet personnel); NATO estimates 224,000 Warsaw Pact air force troops, but the Warsaw Pact claims it has only 182,000. The comparable numbers for NATO are 744,000 ground troops (including 210,000 U.S. Army) and 198,000 Air Force personnel (see Jonathan Dean, "Military Security in Europe," *Foreign Affairs*, Fall 1987.)

⁹Congressional Research Service, Library of Congress, *East-West Troop Reductions in Europe: Is Agreement Possible?* Report for the Subcommittee on International Security and Scientific Affairs, House Committee on Foreign Affairs, U.S. Congress, Washington, D.C.: U.S. Government Printing Office, 1983.

Those documents showed three major areas of agreement in principle:

- *Manpower Ceiling.* Both sides agreed to reduce military manpower of all "direct participants" to a common ceiling of 900,000, with a subceiling of 700,000 for ground troops (but without resolving the database issue, this key agreement was of questionable value).
- *Verification.* Both sides agreed that methods for verifying compliance must be included in a treaty, but they differed in detail. Both agreed on establishing permanently manned entry and exit checkpoints to monitor troop movements, on prior notification of ground force movements, and on annual inspections. The Western position, however, was for a much more intrusive and vigorous verification program than that proposed by the East.
- *Type of Agreement.* Both sides agreed on the goal of a "single-phase agreement," with U.S. and Soviet troop withdrawals first, followed by force withdrawals by the other direct participants to complete the reduction. Foreign forces withdrawn from the reduction zone could not be redeployed to a flanking position that threatened any of the indirect participants (e.g., Soviet troops withdrawn from Czechoslovakia could not be stationed in Hungary; U.S. troops withdrawn from FRG could not be stationed in Turkey), while indigenous forces that are withdrawn must be inactivated or transferred to the reserves.

However, disagreements over current force deployments (the database issue); inclusion of armaments (the East insisting troop withdrawals include their equipment, the West insisting disposition of that equipment be optional); the extent of verification measures; and a number of minor issues (such as national subceilings within the overall ceiling) constituted major stumbling blocks to any further progress. By 1985, critics in the United States began to question the wisdom of continuing with MBFR because of its shift in focus to manpower reductions, while the Soviet Union indicated its desire for a new approach. In February 1985, the East proposed a separate agreement calling for modest U.S. and Soviet force reductions outside MBFR prior to reaching an MBFR agreement involving all direct participants. (The idea of such reductions was first proposed by the West in 1979 but subsequently dropped because the East criticized its lack of linkage to subsequent reductions.) Because this proposal signaled Soviet acceptance of asymmetrical force withdrawals and offered a chance of at least accomplishing something after 12 years of negotiations by deferring the database issue to a later time, the West, at the urging of the FRG and Great Britain, accepted the Soviet's idea and offered a counterproposal in December 1985 that was responsive to the Soviet position. It accepted the two-stage process; agreed to postpone resolution of the database issue

until completion of the first stage; and proposed one U.S. brigade and one Soviet division be withdrawn in the first stage (equating to approximately 5,000 and 11,500 personnel, respectively). In exchange for its concession on the database issue, the West expected some concessions by the other side on verification measures. Those concessions, however, were not forthcoming. In the February 1986 meeting in Vienna, the East pocketed the concession without offering anything new on verification; it also presented another proposal, repackaging three of its previous proposals, rather than responding to NATO's offer.¹⁰ During 1986 it became clear that the impasse with MBFR was final and that a different process would be required to make any progress with force reductions in Europe. Ideas for a new format were offered by both sides and prospects are that a new round of negotiations, the Conference on Stability Talks in Europe, will get underway in Fall 1988.

Even though MBFR was not successful, it offered important lessons on the difficulty of reaching an agreement, the confounding problems of so many asymmetries between East and West, the importance of NATO unity, and the need for patience. The most important lesson, as COL William Bowman points out in an insightful analysis, may be that arms control should not become an end in itself: it cannot be used "as a crutch to hold up inadequate military capabilities in the hope that deficiencies and force imbalances can be negotiated away."¹¹ Stated another way, the side with the military advantage has no incentive to give it away.

Conference on Security and Cooperation in Europe

The CSCE process began in 1973 as a political negotiation about the fate of Europe in the era of détente. In contrast to MBFR, this conference was not a bloc-to-bloc negotiation, but rather included neutral and nonaligned states as well as NATO and Warsaw Pact countries. Furthermore, it was not limited to a specific area, but covered "all of Europe." The first conference was confined largely to nonmilitary problems such as human rights issues, economic and scientific cooperation, and information exchange, but it also included discussions on rudimentary "confidence-building measures" (CBMs) on military matters, primarily at the urging of the neutral states. The latter, because they were excluded from the MBFR negotiations,

¹⁰For a concise overview of the final negotiating positions of the two sides in 1986, see COL David C. Skaggs, "MR Update: MBFR," *Military Review*, Feb 1987.

¹¹COL William R. Bowman, *Limiting Conventional Forces in Europe* (Washington, D.C.: National Defense University Press, 1985)

wanted to see their security concerns addressed by CSCE, with particular emphasis on reducing the perceived risk of inadvertent war. The agreement reached in 1975, known as the Helsinki Final Act, included a number of CBMs, but they were insignificant (e.g., prior notification of major military maneuvers involving more than 25,000 troops, voluntary notifications of smaller maneuvers, and voluntary invitation of observers). Yet, the European countries viewed these limited CBMs as a valuable starting point for further negotiations, with the French taking the lead in developing new proposals.

In 1978, France proposed a two-stage Conference on Disarmament in Europe within the CSCE framework. The first stage would be to negotiate militarily more significant measures for operational arms control than the Helsinki CBMs; the second would be to seek armaments and troop reductions throughout Europe. This proposal found strong support by the neutral states and was formally proposed by the NATO allies in the 1980 CSCE Review Meeting in Madrid. (The fact that it would compete with MBFR was apparently of concern only to the United States.) It was ultimately accepted by all 35 participants, with the mandate for this "Conference on Confidence and Security Building Measures (CSBM) and Disarmament in Europe" (CDE for short) worked out and formally signed at the 1983 Review Conference in July 1983. CDE Phase I began in January 1984 and resulted in the "Stockholm Document" of September 1986. That document articulates the duty of states to refrain from the threat or use of force and to resolve their disputes peacefully, and it includes the following set of specific CSBMs:

- *Prior Notification.* States will notify each other 42 days or more in advance of "notifiable" military activities in the zone of application for CSBM. That zone is defined as "the whole of Europe as well as the adjoining sea areas and airspace." Notifiable activities are defined as any of the following "military activities in the field conducted as a single activity": any exercise, troop concentration, or transfer into the CSBM zone involving at least 13,000 troops or 300 battle tanks, "if organized into a divisional structure or at least two brigades/regiments, not necessarily subordinate to the same division"; an amphibious landing or parachute drop involving at least 3,000 troops; and air force participation in excess of 200 planned sorties (excluding helicopters) in an exercise. Notifiable activities carried out without advance notice to the troops involved (alerts) are exempt from prior notification but notification must be given at the commencement of the activity.

- **Observers.** Notifiable military activities involving in excess of 17,000 troops (5,000 troops in the case of amphibious landings or parachute drops) are subject to observation, with the host state required to invite up to two observers from each participating state. The host state (on whose territory the activity is conducted, even if its forces do not participate) will brief observers on the activity; provide maps, daily schedules, and observation equipment; and provide opportunities for direct observation of forces engaged in the activity. It is not, however, required to permit observation of restricted locations or installations. Activities carried out without advance notice to the troops involved (alerts) are exempt unless they last longer than 72 hours, in which case they are subject to observation after the first 72 hours.
- **Annual Calendar.** No later than 15 November, participating states will exchange an annual calendar of notifiable military activities planned for the following year. Any changes must be communicated no later than in the appropriate notification. The type of information required on each activity is very detailed and spelled out in the document. However, the document provides an escape clause: notifiable military activities "not included in an annual calendar will be communicated to all participating states as soon as possible."
- **Constraining Provisions.** The annual calendar must also include advance information on any notifiable military activities planned for the second subsequent calendar year if they involve more than 40,000 troops. This provision is reinforced with a flat prohibition of activities involving more than 75,000 troops unless they have been the object of such advance communication, and it prohibits activities involving more than 40,000 troops unless they have been included in the (regular) annual calendar. An additional clause is that the number of exceptions to the annual calendar (notifiable activities carried out but not included in the calendar) "should be as few as possible."
- **Compliance and Verification.** Participating states have the right to conduct inspections in the territory of any other participating state; but no state is obligated to accept more than three inspections on its territory per year nor more than one inspection from the same state. Requests for inspection must be replied to within 24 hours, and inspection teams will be permitted to enter the territory of the receiving state within 36 hours. A request for inspection is limited to one team of four inspectors; during inspection, the team may divide into two parts, while the duration of inspection is limited to 48 hours (beginning at the arrival of the inspection team at the specified area). The inspecting state will specify the mode of inspection (air, ground, or both) and, if air, type of platform (aircraft, helicopter, or both). The air vehicle will be chosen by "mutual agreement" (i.e., in practice this means

that aircraft and crews for transporting inspection teams would normally be provided by the receiving, not the inspecting, state).

The above provisions are unprecedented and are testimony to the persistence of the negotiators. In contrast to the Helsinki CBMs, these provisions are mandatory, the verification provisions go far beyond simple agreements in principle, and the inspection procedures are spelled out in detail. Yet, the achievement is more symbolic than militarily significant: *the Stockholm Document does not reduce the prospect of war.*

NATO's core objectives going into these negotiations were threefold: reduce the threat of surprise attack, reduce the risk of armed conflict resulting from miscalculation or misunderstanding, and inhibit the use of force for political intimidation purposes. In his assessment of the Stockholm's CSBMs, Richard Darilek concludes they do not lead immediately to achievement of those core objectives, but satisfy mid-range objectives in fostering greater openness and predictability of military activities that pave the way for follow-on negotiations on even more stringent CSBMs "that could move operational arms control closer to achieving the core objectives."¹²

Prospects for Conventional Arms Control

The future direction of conventional arms control is difficult to predict because of confusing signals from the Soviet Union. The confusion began with General Secretary Mikhail Gorbachev's speech to the East German Communist Party Congress in April 1986, in which he called for "substantial reductions in all the components of the land forces and tactical air forces of the European states and the relevant forces of the USA and Canada deployed in Europe." He proposed that the area for such force reductions be expanded to "cover the entire European territory from the Atlantic to the Urals," and that withdrawn units should take their armaments with them to their national territory; he suggested that "operational-tactical nuclear weapons could be reduced simultaneously with conventional weapons"; and he hinted at flexibility in the Soviet position regarding verification by stating that "both national technical means and international forms of verification including, if need be, on-site inspections are possible." The extent of force reductions

¹²Richard E. Darilek, op. cit. in Note 1.

proposed by Gorbachev was subsequently clarified to mean 100,000 to 150,000 military personnel within 2 years, and 500,000 by the early 1990s.

The details of this initiative were further elaborated by the Warsaw Pact's Political Consultative Committee meeting in Budapest, which issued a statement (the "Budapest Appeal" of 11 June 1986) suggesting that an appropriate forum to consider these proposals could either be Phase II of CDE, a new negotiation, or an expanded MBFR framework. Thus, in essence, the Soviet proposal was "to cut the knot which has been growing tighter at the Vienna talks over so many years" (to quote Gorbachev), not by resolving the true stumbling blocks in the MBFR negotiations (the database and verification issues) but by expanding the force reduction area to "all of Europe" (a CSBM notion) and starting from scratch talking about the same problems again, only in a more complex framework: 35 vice 11 participants, negotiating as individual nations not as two blocs, and addressing not only conventional force reductions but also battlefield nuclear weapons (range below 500 km).

In its confusion and in an attempt to limit the political mileage achieved by the Soviet Union from these proposals, NATO was unable to produce a cohesive response. The so-called Brussels Declaration of Conventional Force Reductions, issued by NATO foreign ministers in December 1986, recommended a new conference on Conventional Arms Reductions in Europe (accepting the Soviet proposal to expand MBFR to all of Europe) and a separate negotiation to build upon the CDE agreement. Current agreement calls for these new talks to start in 1988, but little is known about terms of reference and negotiating positions.

Without trying to predict the outcome of those talks, any positive result for the West (satisfying NATO's core objectives stated earlier) is unlikely; a realistic possibility for the West to negotiate away the conventional arms advantage of the Warsaw Pact simply does not exist. Since the record shows that European NATO members have difficulty grasping this fact, the most likely prospect is that they will continue to seek arms control measures and negotiations as a preferred alternative to conventional defense improvements. The flaw in such an approach lies in assuming that Western notions of arms control objectives (i.e., to reduce the likelihood of war, the damage of war if it breaks out, and the economic cost of defense) are

shared by the Soviet Union. In actuality, however, they are not. One observer articulated the difference as follows:

Whereas in the West the presumed convergence of arms control and military policy and planning has led us to believe and behave as if arms control could serve as a substitute for military power, or at least certain aspects of it, in achieving security, the East apparently regards arms control as a way to augment military power. Put differently, . . . the West looks to arms control to help solve technical/military problems; the East regards arms control as a political means of supplementing military policy and planning.¹³

CHEMICAL WEAPONS

Chemical weapons have been singled out as inhumane and uncivilized from the time they were first considered for military use. Negotiations on controlling or banning chemical weapons thus have a long history, but no solution is yet in sight. A brief review of those negotiations follows.

The first discussions on chemical weapons took place in 1899 and resulted in the so-called The Hague Conventions of 1899 and 1907 that bound the signatories "to abstain from the use of projectiles the sole object of which is the diffusion of asphyxiating or deleterious gases." The United States did not sign those treaties because it did not see any purpose in doing so, questioning the effectiveness of such bland agreements in wartime. The horrors of World War I, which saw the first large-scale application of chemical weapons on the battlefield, caused the allies to reaffirm in the 1919 Versailles Treaty, the prohibition of the use of poisonous gases.

The next international effort to control chemical weapons was the Geneva Convention of 1925. The product of that conference was the 1925 Geneva Protocol that prohibited the use in war of asphyxiating, poisonous, or other gases and of bacteriological methods of warfare. Both the Soviet Union and United States signed that agreement, but the protocol does not prohibit production or possession of chemical weapons nor does it contain any verification provisions. Furthermore, most signatories reserved the right to retaliate in kind if attacked with chemical weapons; thus, the Geneva Protocol is actually a "no first-use" agreement. During the 1932-1937 sessions of the World Disarmament Conference, additional but

¹³Robert A. Gessert, "Force Reductions and Security in Europe," Chapter 3 in Richard Burt (ed.), *Arms Control and Defense Postures in the 1980s* (Boulder, Colo.: Westview Press, 1982).

unsuccessful attempts were made to work out an agreement prohibiting the production and stockpiling of chemical weapons.

The Germans' abstaining from the use of chemical weapons in World War II is commonly attributed to the allies' resolve to retaliate in kind and their possession of the weapons to do so. All the reported incidents of chemical weapons since World War I have occurred when one of the two sides involved did not possess a chemical weapons capability.

In 1969, the United States adopted unilaterally a moratorium on the production of chemical weapons as a signal to the world of its desire to ban chemical weapons; it reaffirmed its no first-use policy and renounced the use of biological weapons under any circumstances. Shortly thereafter, in 1970, this unilateral ban of biological weapons was extended to cover "toxins" as well (poisonous chemicals ordinarily produced by biological, not chemical, processes), with prompt destruction of any existing U.S. stocks. The Biological and Toxin Weapons Convention of 1972 resulted in an agreement that bound the signatories not to develop, produce, stockpile, or acquire biological agents or toxins, nor weapons and means to deliver them. This agreement was ratified in 1975. From 1977 through 1980, the United States conducted bilateral negotiations with the Soviet Union on the elimination of chemical weapons, but a stalemate resulted because of Soviet refusal to address critical verification and compliance issues.

In 1980, the United States redirected its efforts to the 40-nation Conference on Disarmament meeting in Geneva, but continued Soviet intransigence on the same issues of assured compliance through verification hampered any progress. In April 1984, the United States proposed a draft treaty on a chemical weapons ban, outlining the kind of verification provisions necessary to ensure compliance with, and confidence in, such an agreement; and in July 1984, the United States resumed bilateral talks with the Soviet Union to discuss methods for fostering either side's confidence in the other's compliance with the proposed chemical weapons ban. By 1986, the two superpowers agreed broadly on the general terms of a treaty but continued to disagree on verification measures. The United States insisted on short-notice (48-hour) mandatory inspections anywhere on national territory; the Soviet Union, although finally reconciled to the idea of on-site inspections, wanted to limit such "challenge" inspections to declared chemical weapons production facilities or to

locations at which chemical weapons use had been alleged. Little movement occurred on those negotiating positions until mid-1987.

Part of the motivation of the U.S. Congress for authorizing a chemical weapons modernization program was that it might lead to a ban of all chemical weapons. In the November 1985 Summit Meeting, President Ronald Reagan and General Secretary Gorbachev reaffirmed they are in favor of "a general and complete prohibition of chemical weapons and the destruction of existing stockpiles of such weapons" and agreed "to accelerate efforts to conclude an effective and verifiable international convention" on this matter. They also agreed to intensify bilateral discussions on all aspects of such a chemical weapons ban, including the question of verification. In his January 1986 speech to the Central Committee, Gorbachev reiterated those points and asserted the Soviet Union was prepared "for a timely declaration of the location of enterprises producing chemical weapons and for the cessation of their production and ready to start developing procedures for destroying the relevant industrial base and to proceed soon after the convention enters into force to eliminating the stockpiles of chemical weapons."

On 11 August 1987, the Soviet ambassador to the Conference on Disarmament finally accepted the U.S. draft treaty, proposed in 1984, as the negotiating basis in the conference. Serious work on this "Comprehensive Ban on Chemical Weapons" is reportedly now in progress in Geneva with expectations that a verifiable and effective ban on chemical weapons can be achieved. There is no doubt that the only reason why the Soviets finally gave in was the U.S. determination to build a modern and credible retaliatory capability.

THEATER NUCLEAR FORCES

Negotiations on theater nuclear forces began in 1980 in the aftermath of NATO's "dual-track" decision of December 1979. After 7 years of negotiations, an agreement between the Soviet Union and the United States was signed in 1988, but the terms of that agreement are controversial and are probably more than NATO, if not the United States, ever bargained for. In this section, we review the background of NATO's dual-track decision, the problems of measuring the force balance for this category of weapons, the negotiations that took place, and the concerns of NATO allies about the intermediate nuclear forces (INF) agreement.

The INF Issue

The INF issue can be traced back to 1967 when NATO first adopted Flexible Response after a decade of minicrises over nuclear strategy, tactical nuclear weapons, and "Forward Defense." In the transition toward Flexible Response, the issue of theater nuclear forces, specifically medium-range ballistic missiles (MRBMs) and intermediate-range ballistic missiles (IRBMs) based in Europe, was a recurring matter of debate.¹⁴ Many proposals were made between 1959 and 1965, pursuant to various political and military pressures, but those proposals were not well received. They included a multinational MRBM force under NATO command [an idea advocated by the Supreme Allied Commander Europe (SACEUR)]; various schemes for an IRBM force either land-based missiles on flatcars and barges or sea-based Fleet Ballistic Missile submarines under NATO command or dedicated by the United States to NATO under a shared mechanism of control; and the more far-reaching idea of a Multi-Lateral Force, consisting of 25 surface ships, each carrying eight Polaris missiles, manned by multinational crews, and under SACEUR command. The MRBMs that the United States had deployed in 1959 to fill a gap in target coverage were withdrawn in 1963, with their missions assumed by less vulnerable U.S. strategic missiles.

In his campaign to explain and "sell" Flexible Response to NATO, starting in 1962, Secretary of Defense McNamara repeatedly emphasized three points: the need for centralized command and control over nuclear forces, the assured capability of U.S. strategic forces to fulfill any conceivable role for MRBMs/IRBMs in Europe, and the need for NATO to strengthen its conventional capabilities. Although he expressed willingness to discuss with NATO members the need for any MRBM forces in Europe, he made it very clear that militarily the role of such theater nuclear forces was limited to that of providing a "firebreak." Thus, in the 1960s, when the United States still possessed strategic superiority, INF was primarily a political, not military, issue revolving around divergent pressures.

¹⁴Traditional terminology for missile-range categories has been strategic (range in excess of 5,500 km), intermediate range (2,400 km – 5,500 km), medium range (800 km – 2,400 km), and short range (less than 800 km). The more recent convention, since 1981, is to distinguish three major categories: strategic (same definition), INF, and tactical nuclear battlefield weapons (anything less than 500 km range). The INF category is subdivided into short range (500 km – 1,000 km) and long range (1,000 km – 5,500 km). For bombers, long range has traditionally been defined as beyond 9,000 km and medium range as 5,600 km – 9,000 km.

Following the collapse of the Multi-Lateral Force proposal in 1965,¹⁵ NATO took a number of steps to alleviate those pressures by improving the credibility of the U.S. nuclear guarantee and by facilitating European participation in nuclear affairs. First, it created the Nuclear Planning Group (NPG)¹⁶ in December 1966 to provide a forum for nuclear planning and for consultation on nuclear use in a crisis. Second, the United States agreed to assign 64 Polaris SLBMs (submarine-launched ballistic missiles) to NATO (subsequently increased in 1977 to 40 Poseidon SLBMs); and third, the United States deployed nuclear strike aircraft (one wing of F-111 medium-range, all-weather aircraft, subsequently doubled to 156 aircraft in 1977) to Great Britain.

Flexible Response was formally adopted in December 1967. By then, NATO had a substantial number of theater nuclear weapons, but very few different types of weapons. Apart from the U.S. strategic systems, NATO's delivery means consisted mainly of artillery (approximately 40 percent of warheads), bombers (25 percent), and a few battlefield rocket and missile systems (10 percent), with the remaining 40 percent earmarked for special purposes such as atomic demolition munitions, nuclear depth charges for antisubmarine warfare, and nuclear warheads on air defense missiles. In other words, NATO did not possess any INF capability with one exception: the Pershing short-range ballistic missile that was fielded in 1963.

At the insistence of the Office of the Secretary of Defense in 1964, the Pershing was subsequently assigned the theater quick-reaction-alert mission and modernized into the Pershing IA configuration to make it more suitable for that mission.¹⁷ The Pershing IA, first fielded in 1969, included more launchers per battalion/wing, modernized ground support equipment to enhance mobility, and somewhat improved accuracy for its single reentry vehicle armed with one of three alternative warheads (60 to 400 KT yield). With a range of 185 km – 740 km, the Pershing IA represented

¹⁵The interesting Multi-Lateral Force episode is covered in detail by John D. Steinbruner in *The Cybernetic Theory of Decision: New Dimensions of Political Analysis* (Princeton, N.J.: Princeton University Press, 1974). For a less-detailed review, see David N. Schwartz, *NATO's Nuclear Dilemmas* (Washington: The Brookings Institution, 1983).

¹⁶The NPG originally consisted of four permanent members: United States, UK, Italy, and FRG and three rotating members drawn from other NATO nations. Since 1979, it consists of representatives from all NATO nations except France, Spain, and Iceland.

¹⁷The quick-reaction-alert mission is the capability to attack preassigned, high-threat, time-sensitive, fixed military targets immediately.

NATO's only nuclear deterrent capable of reaching military targets on Warsaw Pact (although not Soviet) territory with little warning (flight time less than 10 minutes) and high probability of penetrating any defenses. The obvious mismatch of the rest of NATO's theater nuclear force and Flexible Response strategy was not addressed at this time in spite of the Soviet buildup of its INF which by January 1970 had reached a level of 650 SS-4 and SS-5 missile launchers. [The SS-4, first fielded in 1959, had a range of 1,900 km; the SS-5, first fielded in 1961, had a range of 4,100 km; both were liquid-fueled ballistic missiles with low accuracy, and a single reentry vehicle with high-yield nuclear warhead of 1 MT; most were targeted at Europe and represented a countervalue ("city busters"), not counterforce capability.]

Even though the Soviet Union achieved rough strategic nuclear parity with the United States in 1969, the NPG focused exclusively on battlefield nuclear weapons, not INF, throughout its first decade of existence. The only change in NATO's theater nuclear forces during that period was the fielding of the Lance battlefield nuclear missile system (range 110 km) starting in 1972 to replace the obsolete Sergeant and Honest John systems. It was not until 1977 that the NPG began to address NATO's void in INF capabilities. Several factors have been singled out as causing the INF issue to finally receive the attention it demanded, including the following three:¹⁸

- *Strategic Arms Talks.* The SALT process codified Soviet strategic parity with the United States and thus accentuated existing imbalances at the theater nuclear and conventional levels. The SALT I Interim Agreement, signed in May 1972 (and intended to be superseded by a permanent SALT II agreement before SALT I expired in 1977), limited the United States to 1,710 launchers for ICBMs (intercontinental ballistic missiles) and SLBMs (which was 700 fewer than the Soviet Union already had fielded at that time) and froze Soviet "heavy" ICBM launchers at 308 (i.e., the number of SS-9 missile launchers fielded at the time). Because this agreement did not include a definition of "heavy," it left the Soviet Union free to deploy additional "nonheavy" ICBMs — an opportunity which it soon exploited. Although the United States had a monopoly in multiple independently

¹⁸For a more detailed account of these factors and the ensuing INF debate, see: (1) Congressional Research Service, "The Modernization of NATO's Long-Range Theater Nuclear Forces," Committee Print Report prepared for the Subcommittee on Europe and the Middle East, House Committee on Foreign Affairs, Washington, D.C.: U.S. Government Printing Office, Dec 1980; (2) David N. Schwartz, *NATO's Nuclear Dilemmas* (Washington, D.C.: Brookings Institution, 1983); (3) Leon V. Sigal, *Nuclear Forces in Europe* (Washington, D.C.: Brookings Institution, 1984).

targetable reentry vehicle (MIRV) technology at the time, the Soviet Union took only a few years to catch up. The next agreement, the Vladivostok Accord signed in 1974 (and intended to tide over the delay in SALT II caused by "Watergate" and President Nixon's resignation), adopted equal ceilings on strategic systems for both sides: one aggregate ceiling of 2,400 strategic ballistic missile launchers (ICBMs and SLBMs) and bombers, and one subceiling of 1,320 MIRV ICBMs/SLBMs. The agreement, however, did not include any limitations on throwweight. The final agreement, SALT II, signed in 1979 but never approved by Congress for ratification, included equal numeric ceilings on broad categories of weapons, but the Soviet Union retained its monopoly in heavy ICBMs and 5:2 advantage in ICBM warheads and ballistic missile throwweight. Importantly, the entire SALT process did not constrain the Soviet threat against Europe, which was cause of great concern to the European allies. SALT II, contrary to earlier expectations, did not address INF other than banning GLCMs/SLCMs (ground-launch cruise missiles/sea-launch cruise missiles) with ranges beyond 600 km (but that clause was contained in the SALT II Protocol valid only through December 1981, thus not foreclosing NATO's options). SALT III, which was intended to address theater nuclear forces, never was initiated because of the Soviet invasion of Afghanistan.

- *Soviet Modernizations.* Throughout this period, the Soviet Union was embarked on a major modernization program of its land-based missiles. It began a phased retirement of the obsolete SS-4/SS-5 missiles in 1969, with those missions first assumed by the SS-11, and it added China to the assigned SS-11 targets. It next began, in 1973, a complicated program to make the most of the SALT I agreement by exchanging ICBMs assigned to theater missions for new ICBMs assigned to strategic missions and fielding new IRBMs unconstrained by SALT I. This worked as follows: SS-11 missiles targeted at Europe were replaced by new SS-19 missiles targeted at the United States. To maintain the same target coverage in Europe, the Soviets removed one stage from the unsuccessful SS-16 mobile missile and called it the SS-20 (with range of 5,000 km not subject to SALT I). The SS-20, because of its mobility and accuracy, was perceived as a significant increase in the Soviet threat and became the rallying point for NATO's INF modernization requirement. Equally perturbing were the Soviet 1977 tests of an improved version of the SS-19 (Mod 3), which demonstrated much sooner than expected a stage of highly accurate MIRV technology comparable with that of the United States. That assessment, in turn, led to the infamous "window of vulnerability" in the early 1980s (Soviet capability to achieve a 90-percent kill probability of all Minuteman missiles in silos). This intelligence information was as perturbing to the United States as the SS-20 issue was to the Europeans.
- *Cruise Missile Technology.* By the mid-1970s, cruise missile technology in the United States had advanced from the primitive stage of the late 1950s to

become an attractive alternative for operational/tactical applications. Its characteristics of high accuracy, low vulnerability, and relatively low cost, presented virtually unlimited application to a wide range of missions in NATO.¹⁹ DoD officials considered the advent of long-range, highly accurate cruise missiles as the most significant weapon development of the decade. Some U.S. officials, however, were not enamored of this technology and viewed it primarily as a potential "bargaining chip" in SALT negotiations with the Soviet Union. On the other hand, NATO officials were determined to prevent this from happening and to safeguard this technology from negotiating constraints for future application. For several years cruise missile technology was an issue between the United States and its NATO allies, the former being evasive on this point and the latter suspecting U.S. readiness to accept strict restrictions on cruise missile technology transfer and deployment to Europe if needed to close a SALT II agreement. This controversy peaked in 1977 and was not settled until the details of the SALT II agreement were made public in 1979.

Throughout this first decade of the NPG's existence, the United States attempted to downplay European concerns about the theater nuclear imbalance as "illusory," arguing that its central strategic weapons were more than adequate to cope with the Soviet theater threat. However, European persistence and the need for European support of SALT finally convinced the United States that the INF issue should be addressed. The key argument was put forth by West German Chancellor Helmut Schmidt in a speech before the International Institute of Strategic Studies in London on 28 October 1977. His concerns on this issue were as follows:

... changed strategic conditions confront us with new problems. SALT codifies the nuclear strategic balance between the Soviet Union and the United States. To put it another way: SALT neutralizes their strategic nuclear capabilities. In Europe this magnifies the significance of the disparities between East and West in nuclear tactical and conventional weapons.

... strategic arms limitations confined to the United States and the Soviet Union will inevitably impair the security of the West European members of the alliance vis-à-vis Soviet military superiority in Europe if we do not succeed in removing the disparities of military power in Europe parallel to the SALT negotiations. So long as this is not the case we must maintain the balance of the full range of deterrence strategy. The alliance must, therefore, be ready to make available the means to support its present

¹⁹A comprehensive discussion of potential applications of cruise missile technology in NATO can be found in Richard K. Betts (ed.), *Cruise Missiles: Technology, Strategy, Politics* (Washington, D.C.: Brookings Institution, 1982).

strategy, which is still the right one, and to prevent any developments that could undermine the basis of this strategy.²⁰

In that speech, Chancellor Schmidt expanded on the same points that he had made in the NATO Summit Meeting at London in May 1977. At that meeting, President Carter outlined his proposals for a NATO Long Term Defense Program, which included theater nuclear force improvements. The NPG was assigned responsibility for this issue, which was managed separately from the rest of the Program. The NPG subsequently established in October 1977 a subordinate body, the High-Level Group (HLG),²¹ to examine the need for theater nuclear force modernization and the political, military, and technical implications of alternatives for improvements. The establishment of this body signaled the start of the first serious NATO study of the INF issue, 10 years after the adoption of Flexible Response which initially surfaced the issue.

The INF Debate and NATO's Decision

In the course of its examination, the HLG adopted the following guidelines: an INF decision should not result in a radical change in NATO's defense posture, but should be "evolutionary" within the existing Flexible Response strategy and without an increase in the total theater nuclear weapons inventory; NATO does not need to match the SS-20, but it should possess the capability to strike targets in the Soviet Union; all new systems should have maximum visibility and, hence land-based systems are preferred; and the performance characteristics to be emphasized should be survivability (mobility), capability to penetrate defenses, and accuracy. By March 1978, the HLG had reached a consensus that theater nuclear force modernization was necessary and should include deployment of new systems in Europe capable of reaching Soviet territory. It next reviewed potential candidates and ultimately decided that a mix of Pershing II missiles and GLCMs would provide the best option within the agreed guidelines.

²⁰The 1977 Alistair Buchan Memorial Lecture. Reprinted in *Survival*, Jan/Feb 1978.

²¹The HLG was made up of senior officials from the ministries of defense of 11 NATO member states. It was chaired by the U.S. Assistant Secretary of Defense for International Security Affairs and had no standing staff but relied on existing defense ministry staffs. This arrangement was at the insistence of the U.S. Department of Defense because of its dissatisfaction with the handling of the NPG staff of the enhanced radiation weapon issued earlier in 1977.

Pershing II was originally designed as a modular improvement of the Pershing IA; the improvement consisted of replacing the inertial guidance system and reentry vehicle with a new terminally guided reentry vehicle that would provide much higher accuracy.²² The concept originated in the late 1960s with the perceived need for a tactical interdiction missile for selective use against important targets such as air bases and command-and-control centers in support of the Flexible Response strategy. A U.S. Army study in February 1971 concluded that improved accuracy for Pershing in conjunction with alternative warheads, including a low-yield, earth-penetrating nuclear warhead, would offer major tactical advantages in Europe. In 1971, the Pershing program manager conducted a review of alternative technical approaches to achieve such improved capabilities and concluded that a new reentry vehicle with a radar area correlation terminal guidance system would be the most cost-effective approach.

The Pershing II program was approved by the Army Staff in October 1971, but several events delayed its progress: new weapons system acquisition policies; internal Army differences during preparation of the "decision-coordinating paper;" and disagreement with Air Staff over whether the Pershing II was the best approach to meet mission need. The first defense systems acquisition review council (DSARC I) meeting, to review readiness of the program to proceed to advanced development, took place in January 1974. Although not completely endorsing the program, the DSARC found that the arguments in its favor were sufficient to justify initiation of advanced development "as an option for future force modernization." That recommendation was approved by the Deputy Secretary of Defense in March 1974, authorizing advanced development of Pershing II, but requested the Army to further justify need and worth relative to other alternatives prior to DSARC II (which at the time was scheduled for June 1978).

During 1977, the SACEUR (General Alexander Haig) urged that the range of Pershing II be extended from 400 to 1,000 nautical miles to enable it to strike targets in the western military districts of the Soviet Union (but not as far as Moscow). That requirement was ultimately approved in August 1978 by Defense Secretary

²²The Pershing II information is extracted from *Comparison of the Pershing II Program with the Acquisition Plan Recommended by the Commission on Government Procurement*, General Accounting Office Report PSAD-77-51, Washington, D.C.: General Accounting Office, 24 Jan 1977; and F. Clifton Berry, "Pershing II," *International Defense Review*, Vol. 12, No. 8 (1979), pp. 1303-1308.

Harold Brown over the objections of the State Department but with concurrence by the NPG. The restructured program included development of a new two-stage missile for Pershing II, with a shorter one-stage version of the new missile (Pershing IB) planned as modernization of the German Pershing IA or to meet other possible NATO requirements. The advanced development phase was completed in December 1978, with DSARC II recommending approval to proceed to full-scale engineering development. Defense Secretary Brown's authorization to proceed with full-scale development in January 1979 was given after full consultation with the NPG.

GLCM was the ground-launched version of the Tomahawk cruise missile that was in advanced development in 1979 for sea-launched applications. Powered by a small turbofan engine that provided a speed of 0.8 Mach at cruising altitude of 100 meters and guided by inertial navigation with terrain contour matching updates at periodic intervals, GLCM was designed to be launched from an air-transportable, ground-mobile platform (transporter/erector/launcher) with four missiles mounted per platform; it was designed to have a maximum range of approximately 2,500 km.

Following deliberations throughout 1978, the HLG submitted its final report to the NPG in April 1979. In that report, it recommended that NATO modernize its long-range INF capabilities; that the deployment package consist of a mix of Pershing II and GLCM with a total number of deployed missiles between 200 (anything less would be just a token force) and 600 (anything more might run the political danger of being viewed as decoupling); that basing be shared among as many NATO allies as possible (at the insistence of the FRG); and that the final decision on long-range INF deployments be taken by December 1979 (to avoid possible complications arising from the 1980 elections in both the United States and FRG, and to provide time for preparations for deployment in late 1983 when the systems would become available). The NPG accepted these recommendations and tasked the HLG to develop a specific deployment plan.

In parallel with these activities, both DoD and the State Department believed that it was time for the United States to reaffirm its leadership role in NATO that had been damaged by the enhanced radiation weapon situation. This shared conviction facilitated the conduct of the 1978 interagency study to coordinate the U.S. position on the implications that long-range INF deployments had on the NATO-Warsaw Pact military balance and arms control, pursuant to Presidential Review

Memorandum 38, "Long Range Theater Nuclear Capabilities and Arms Control," June 1978. That interagency study, completed in August 1978, presented a consensus that both political and military needs existed for the new long-range INF deployments in NATO; that arms control efforts to limit Soviet SS-20 and Backfire²³ deployments would probably not succeed unless NATO made a firm decision on long-range INF modernization; and that the United States should support the HLG. Furthermore, the White House decided to become directly involved in supporting this initiative. Accordingly, a U.S. team visited European capitals in early 1979 to brief the U.S. position, solicit political support, and promote European consensus.

In April 1979, in response to German and Dutch insistence, NATO created the Special Group, later renamed the Special Consultative Group,²⁴ to examine arms control initiatives involving long-range INF. In the course of its meetings, the Special Consultative Group developed a consensus on guidelines for the United States in arms control negotiations involving INF: the negotiations should be complementary to, not a substitute for, NATO's long-range INF modernization; a postponement of implementation, pending progress in arms control negotiations, would not be in NATO's interest because it would let the Soviet Union control NATO defense planning; negotiations should be coordinated within the SALT III framework, thus excluding the British and French independent nuclear forces; and the aim of long-range INF negotiations should be equality in ceilings – even if NATO did not choose to build up to that ceiling – and strict verification of long-range INF reductions or limitations.

During the summer of 1979, the HLG refined its deployment proposal and arrived at the following scheme: one-for-one replacement of the Pershing IA with the Pershing II in the existing 56th Field Artillery Brigade (Pershing) deployed with U.S. Army, Europe; and 464 GLCMs distributed among participating nations, with 40 launchers based in the UK, 28 in Italy, 24 in the FRG, and 12 each in Belgium and The Netherlands. The proposed Pershing II/GLCM deployment package totaled

²³The Backfire bomber, deployed by the Soviets in 1974 to replace the Blinder, was another major cause, next to the SS-20, of NATO's concerns about the theater nuclear balance in Europe. Because its combat radius was not intercontinental, U.S. attempts to include it under SALT II had not been successful.

²⁴The Special Consultative Group consisted of arms control specialists from all NATO countries except France; it was chaired by the Director, Political-Military Affairs of the U.S. Department of State, and like the HLG, it relied on existing national staffs rather than building a new separate staff.

572 single-warhead missiles, within the agreed upon lower and upper boundaries on the number (200 – 600) of missiles. Since previous political consultations had shown that none of the participating nations was interested in a "dual-key" arrangement (shared control of employment), the missiles were to be U.S. owned and operated, at an investment cost (research and development, and procurement accounts) estimated at \$5 billion, with pro rata contributions by NATO countries for installation costs through the NATO infrastructure program. The proposal was briefed to the national governments involved to obtain reactions from responsible political leaders, with the UK, FRG, and Italy supporting the proposal, and Belgium and The Netherlands being noncommittal, preferring to defer to HLG judgment and delay their own decision.

By September 1979, both the HLG and Special Consultative Group had completed their tasks. Their reports were combined and converted into a consolidated document by a U.S. interagency task force for review and decision by the NATO Ministerial Meeting in December. That document, the "Integrated Decision Document," was again presented to the political leaders involved for review and comment, and later became the basis for NATO's dual-track decision on 12 December 1979. Prior to that meeting, the NPG meeting in November rejected a Dutch proposal to go ahead with the production decision while deferring the deployment decision for 2 years pending progress with arms control negotiations; it also rejected a Danish proposal to defer the entire decision. The United States, UK, and FRG were adamant that the decision be made without any delay or postponement of any part of the INF modernization decision, because that would make NATO's plans hostage to those of the Soviet Union. To pacify some of the concerns and foster the needed consensus, the United States added to the decision document the unilateral withdrawal of 1,000 nuclear warheads from the theater stockpile and the agreement that the fielding of 572 missiles and associated warheads would occur within the reduced ceiling.

The communiqué of the 12 December meeting noted NATO's concerns about Soviet long-range INF deployments and the simultaneous buildup of Warsaw Pact conventional and battlefield nuclear capabilities, stating that "Soviet superiority in theatre nuclear systems could undermine the stability achieved in intercontinental systems and cast doubt on the credibility of the Alliance's deterrent strategy by highlighting the gap in the spectrum of NATO's available nuclear response to

aggression." It also outlined the "two parallel and complementary approaches of TNF [theater nuclear force] modernization and arms control" in accordance with the proposals developed by the HLG and Special Consultative Group; and contained the following concluding statement:

The Ministers have decided to pursue these two parallel and complementary approaches in order to avert an arms race in Europe caused by the Soviet TNF buildup, yet preserve the viability of NATO's strategy of deterrence and defense and thus maintain the security of its member states.

A. A modernization decision, including a commitment to deployments, is necessary to meet NATO's deterrence and defense needs, to provide a credible response to unilateral Soviet TNF deployments, and to provide the foundation for the pursuit of serious negotiations on TNF.

B. Success of arms control in constraining the Soviet buildup can enhance Alliance security, modify the scale of NATO's TNF requirements, and promote stability and détente in Europe in consonance with NATO's basic policy of deterrence, defense and détente as enunciated in the Harmel Report. NATO's TNF requirements will be examined in the light of concrete results reached through negotiations.

The communiqué reported that all ministers had agreed to the modernization proposal, but did not mention the reservations by Belgium and The Netherlands. Representatives from those nations endorsed the integrated decision document but deferred decision on deployment of GLCM on their soil, for 6 months in the case of Belgium, and for 2 years by The Netherlands. Subsequently, the coalition government in Belgium collapsed in April 1980, and it was not until September 1980 that the Belgian Government issued an ambiguous declaration, emphasizing the relationship between INF negotiations and the need for GLCM fielding in Belgium, but declaring that

Belgium is here and now prepared to accept the outcome of the negotiations with the USSR and to execute its role within the context of the alliance. Should the negotiations between the United States and the USSR not succeed, Belgium, in concert with its allies, will take all the measures agreed upon by the NATO partners.

Ultimately, GLCM basing in Belgium proceeded as planned. The Netherlands kept deferring its final decision until November 1985, when no further delay was possible because preparations for GLCM fielding had to begin. Its intention had been to utilize that time interval to explore an arms control solution rather than to accept the 48 GLCMs on its soil in view of political opposition. (In June 1984, it even had announced its readiness to forego deployment if the Soviet Union would freeze 378 SS-20s deployed at that time and negotiate reductions with the United States.)

The debate on 1 November 1985, with the Dutch cabinet in favor and a majority in parliament opposed, ultimately resulted in acceptance of GLCM deployment on Dutch soil provided that the number of associated nuclear tasks be reduced. The resulting Dutch decision to forsake two of its remaining nuclear tasks – F-16 delivery of nuclear bombs and P-3C delivery of nuclear depth charges – in return for agreeing to accept GLCM was deplored by NATO ministers in the December 1985 Defense Planning Committee meeting. The ramifications of that decision were perhaps best expressed by General Bernard Rogers, SACEUR:

For the first time, we will have a nation with a nuclear role that cannot participate in the initial use of nuclear weapons by the West in what I believe to be the most logical scenario in which we would have to use them . . . What we have always tried to do is to get that burden borne by all of the nuclear-armed nations. [But with artillery and Lance the only two nuclear weapons left], now the Netherlands cannot participate, because initially we would not want to fire nuclear weapons [against targets] on our own soil. [Furthermore], the Dutch cannot say that the GLCM is a Dutch nuclear task. The fact is that they are not Dutch weapon systems. The GLCM is a U.S. weapon system, manned by a U.S. crew. It is a nuclear task of the United States to fire those weapon systems, if need be, from Dutch, or British, or Italian, or Belgian soil."²⁵

The Measurement Problem

In the debate leading up to NATO's INF decision, one of the factors causing much confusion was the wide variety of weapon counting exercises purporting to show the INF balance between the two sides in Europe. The resulting estimates showed dramatic differences, ranging from rough equality (Soviet assertions) to a 6:1 Warsaw Pact advantage (U.S. assertions). The reason for such large differences is that the assessments are totally assumption-dependent: the theater nuclear force of each side is very hard to quantify and compare. Divergence in basic assumptions thus explains conflicting theater force calculations by authoritative sources such as the 1979 German Ministry of Defense White Paper that calculated the INF balance at 386 for NATO and 1,370 for Warsaw Pact and the International Institute for Strategic Studies showing 2,045 for NATO versus 5,364 for the Warsaw Pact, both

²⁵Interview with General Bernard Rogers. *International Defense Review*, No. 1/1986, p. 13. (Presumably, the exclusion of the FRG in the last sentence was accidental. The Dutch Government's decision in question has been overtaken by events: with the signing of the INF treaty in 1987, those two nuclear missions have been reassumed by The Netherlands.)

based on the mid-1979 status. Factors that explain those differences as well as prevent arrival at a realistic assessment of the force balance include the following:

- *Overlap of Strategic and Theater Systems.* Because of the geographic asymmetry, NATO weapons that are categorized as long-range INF but can reach Soviet territory are strategic as far as the Soviet Union is concerned. Similarly, both the United States and the Soviet Union target a portion of their central strategic systems on theater targets. Even when strategic systems are officially allocated to theater missions (such as the 40 Poseidon missiles with 400 MIRV warheads), many theater force comparisons do not include them for the simple reason they are already included in SALT II aggregates. Any attempt to separate these two kinds of systems causes basic problems in comparing nuclear forces, while combining the two results in serious difficulties in arms control negotiations.
- *Mobility of Systems.* Most systems are mobile and can be moved from theater to theater, thus changing the force balance in the European theater. For example, a large portion of Soviet INF is targeted against China but could be easily switched to target Europe. Similarly, U.S.-based medium-range nuclear strike aircraft (such as the FB-111) could rapidly be deployed to Europe and are thus included in some force comparisons and excluded in others. The same argument applies to carrier-based nuclear-capable aircraft and sea-launched nonstrategic missiles.
- *Range Categorization.* Characteristics of some systems, such as aircraft, make their precise categorization difficult; combat range varies according to mission and payload, while in-flight refueling capability further complicates the matter. Similarly, tactical battlefield missiles (range below 500 km) may be defined as outside INF but certainly affect the theater nuclear balance if they are forward deployed (e.g., SS-21 and Scud B missiles deployed in the GDR). Even if the accepted definitions are already somewhat arbitrary, comparisons become even more artificial if they eliminate certain ranges. The West German White Paper figures cited above are derived by excluding anything below 1,000 miles on each side and all sea-based missiles.
- *Independent Nuclear Forces.* The UK and France have their own strategic nuclear deterrents; both are invariably included in Soviet force comparisons by the Soviets, but excluded from NATO comparisons because they are not under U.S. control. The French strategic force is by declaratory policy reserved for the protection of its vital interests, not necessarily NATO's, but its tactical nuclear weapons would be used to signal resolve to escalate. Understandably, the Soviets include them in any East-West force balance and the United States does not. The British strategic force, in contrast, is committed to NATO, as reiterated by each government since the Nassau Agreement of December 1962. With the pending modernization program,

that force will acquire a potent counterforce capability. It is understandable that the Soviets include them in any East-West force balance, but they fall outside NATO theater balance computations because they are strategic.

- *Mission Discrimination.* Many tactical aircraft on both sides are dual-capable, i.e., they can perform both nuclear and conventional missions. Yet it makes little sense to count them all in a theater nuclear force balance because most would be used conventionally. Similarly, it is misleading to count only nuclear strike aircraft on one side and all nuclear-capable aircraft on the other side.
- *Operational Characteristics.* Inventory counts are static indicators that provide little insight into true capabilities as influenced by operational characteristics (such as reliability, survivability, accuracy, penetration capability) and logistics support (readiness, operational availability, sustainability). The only public assessments, to our knowledge, that have tried to take those factors into account were those published in the early 1980s by the International Institute for Strategic Studies in its annual *Military Balance*; its assessments showed a Warsaw Pact advantage moving from 1.13:1 in 1979 to 1.57:1 in 1981.
- *Unit of Measurement.* One startling shortcoming of many force comparisons is the carelessness about units of measurement, confusing warheads, missiles, launchers, and platforms. This confusion is exacerbated by uncertainty about reloads of missile launchers.

In sum, the basic problem is what to count and how to count it. Without a careful definition and understanding of the underlying assumptions, the numbers have little utility and have been responsible for causing more confusion than insight. Unfortunately, with such an emphasis on missile counts, many people have lost sight of the fundamental reason for NATO's INF decision – not to match the SS-20, but to resurrect the credibility of Flexible Response. In the public mind, the INF decision came to be viewed as NATO's response to SS-20 deployment so that the numbers somehow should be related. This erroneous viewpoint has persisted to date and explains why proponents of the INF agreement believe it is a good deal for NATO: the Soviets will eliminate approximately 1,667 nuclear warheads (and associated missile launchers) whereas the United States will eliminate only 429 warheads. But they are overlooking that this trade has an adverse impact on the credibility of Flexible Response. Although INF represents only a minute portion (roughly 3 percent) of the total nuclear arsenal, it plays a role within NATO that cannot be quantified.

Aftermath and INF Negotiations

Throughout the events leading to NATO's INF decision, the Soviet Union stayed on the sidelines, probably more concerned initially about fostering a friendly climate in support of rapid U.S. ratification of SALT II than the possibility that NATO would be able to make a decision. But in October 1979, it became concerned about signs of NATO resolve and began an offensive to undo the pending decision or, if unsuccessful, to prevent NATO from implementing it. Brezhnev launched that offensive by criticizing NATO for its apparent determination to field long-range INF missiles, announced a unilateral withdrawal of a Soviet tank division from East Germany to show its nonaggressive intentions, and offered negotiations on Soviet SS-20 deployments if NATO would defer a deployment decision. His speech in East Germany was followed by a flood of public statements and letters warning the West European countries of the dire consequences for détente if they went through with the INF decision. This ploy was not successful because of intensive NATO consultations throughout the balance of 1979 under U.S. leadership. As a result, the Soviet warnings were uniformly rejected by the European governments involved, even though they caused increased domestic dissension in several countries. Some observers have speculated that if Brezhnev had followed up his opening move with an offer in November to freeze deployment of the SS-20, he might have succeeded because the consensus in NATO was fragile.

However, within 2 weeks of NATO's decision, the Soviets invaded Afghanistan, which put a damper on détente and canceled any notion of continuing with SALT III as planned. In January 1980, Brezhnev in another speech insisted on U.S. ratification of the SALT II agreement and on NATO revocation of its December INF deployment decision as preconditions to enter into any INF negotiations. Following a visit by Helmut Schmidt to Moscow in June, the Soviets agreed to drop those two preconditions, and bilateral talks began in October that were soon suspended because of President James Carter's loss in the November elections. Those talks were finally resumed in November 1981. During that 2-year delay, the Soviets tripled the number of SS-20s deployed against Europe — from 81 to 243 missiles.

The INF talks since November 1981 can be divided into two phases. The first phase lasted through November 1983, when the Soviet negotiating team walked out (the day after the West German parliament had voted in favor of deployment) saying it would not return to the negotiating table until the Pershing II missiles and the

GLCMs were removed from Europe. The second phase began in 1985, when the Soviets returned to the negotiating table. The first phase has been covered in detail elsewhere²⁶; a brief account of the second phase follows.²⁷

In November 1984, the United States and the Soviet Union jointly announced their willingness and intent to resume negotiations. The Joint U.S.-Soviet Agreement of 8 January 1985 provided for negotiations to start in March 1985 "to prevent an arms race in space and to terminate it on earth, to limit and reduce nuclear arms, and enhance strategic stability." The talks were to proceed in three parallel negotiating forums under one overall umbrella: strategic arms, INF, and space-based weapons. The first two were essentially continuations of the talks broken off in November 1983; the latter was in reaction to the Strategic Defense Initiative (SDI) program, which was first publicly announced by President Reagan in March 1983.

The SDI program was of great concern to the Soviets and, according to most observers, the main reason for their return to the negotiating table. The long-term objectives of these "nuclear and space talks" were set by President Reagan's ideas calling for the elimination of nuclear weapons through a process of reductions and for the deployment of nonnuclear defenses, as articulated in January 1985. The talks began in March as planned but made little progress that year because of the diametrically opposed negotiating positions regarding SDI. The Soviet Union was determined to block that program, not willing to allow any research on space-based strategic defense or to make any move in the parallel negotiations on strategic and INF systems until the United States abandoned all space-based research. The United States, on the other hand, was determined to proceed with a rigorous SDI research program as well as modernization of its strategic systems, the two key conditions set by President Reagan.

With regard to INF, the U.S. negotiating position was back to the long-term goal of the "zero option," first proposed in November 1981. This option would eliminate the entire category of land-based long-range INF missiles on both sides

²⁶The most readable account of this episode is the well-written text of Strobe Talbott, *Deadly Gambits* (New York: Knopf, 1984).

²⁷Source material includes excerpts of official statements as published in the documentation section of each issue of *Survival*; the Arms Control Chapter in *Strategic Survey 1986-1987*, London: International Institute for Strategic Studies, Spring 1987.

but was subsequently softened to "zero-plus" in the 1982 – 83 negotiations (i.e., equal ceilings on INF warheads in Europe at the lowest possible level with certain global constraints). The Soviet position was to stop further INF deployments in Europe at existing levels, leaving them with a 6:1 advantage in INF warheads, as compensation for UK and French "Eurostrategic systems," and leaving further SS-20 deployments in Asia unconstrained. In the weeks leading up to the November Summit Meeting, both sides showed some flexibility in their positions to make progress toward an INF agreement. General Secretary Gorbachev, in a speech to the French National Assembly in October, announced Soviet readiness to proceed with an INF agreement separately from, and unconnected to, progress achieved in the two other negotiations. He also announced that the phase-out of SS-5 had been completed, the SS-4 phase-out would continue as planned, and the moratorium on the SS-20 in Europe would stay in force.

In the United States, the White House announced on 13 November 1985 that the U.S. negotiating team had a new INF proposal as an *interim* step toward the long-term "zero" goal: the United States would cap long-range INF missile launchers in Europe at the number deployed as of 31 December 1985 (140 Pershing II missiles and GLCMs) if the Soviets agreed to reduce SS-20 launchers within range of NATO Europe to the same number. The specific mix of systems would be open to discussion with equal warheads within a range of 420 – 450, counting 4 warheads per GLCM launcher, 3 per SS-20 launcher, 1 per Pershing II launcher. The Soviets would also reduce SS-20 launchers in Asia by the same proportion as in Europe.

The Summit meeting in November 1985 between President Reagan and General Secretary Gorbachev improved U.S.-Soviet relations and accelerated the negotiations. The two leaders agreed on the need to intensify the dialogue between the two countries at various levels and, with regard to the arms negotiations, to pursue a 50 percent reduction in strategic arms "appropriately applied" and the idea of an "interim" INF agreement.

On 15 January 1986, Gorbachev announced Soviet proposals "aimed at the complete elimination of nuclear weapons throughout the world [over] a precisely defined period of time." The proposals, essentially a response to Reagan's January 1985 proposals, envisaged a three-staged process of reductions leading to the elimination of nuclear weapons by all nuclear powers by 1999, but on the condition that

all "space strike" weapons would be prohibited. The first stage (over the next 5 to 8 years) would include a 50 percent reduction of strategic arms by the United States and the Soviet Union; complete elimination of U.S. and Soviet intermediate-range missiles in Europe; a pledge by the UK and France not to build up their nuclear arms; a pledge by the United States not to transfer strategic or medium-range missiles to other countries; and a moratorium on nuclear tests. The second stage (starting in 1990 and to last 5—7 years) would continue the U.S. and Soviet draw-down of strategic weapons, engage other powers in nuclear disarmament, implement agreements achieved in the first stage by the United States and the Soviet Union to eliminate medium-range nuclear weapons, eliminate all tactical nuclear arms, and ban the development of nonnuclear weapons based on new physical principles with destructive capacity close to that of nuclear or chemical weapons. During the third stage (starting in 1995), all remaining nuclear weapons would be eliminated by 1999, with a universal accord that such weapons would be forever prohibited.

President Reagan responded to those proposals in a letter to Gorbachev on 24 February 1986. With regard to INF, he announced the United States had presented a new proposal at the Geneva negotiations, calling for the complete elimination of Pershing II missiles, GLCMs, and SS-20 missiles, "with all such missiles to be removed from the face of the earth by the end of this decade." With regard to Gorbachev's proposals, he indicated concurrence with the first steps (implementing 50 percent reductions in nuclear-offensive forces on both sides and negotiating an INF agreement) but caution with the subsequent steps:

... many of the specific details proposed in the subsequent phases of the Soviet "plan" are clearly not appropriate for consideration at this time. In our view, the total elimination of nuclear weapons will require, at the same time, the correction of the conventional and other force imbalances, full compliance with existing and future treaty obligations, peaceful resolution of regional conflicts in ways that allow free choice without outside interference and a demonstrated commitment by the Soviet Union to peaceful competition. Unfortunately, the details of the Soviet "plan" do not address these equally vital requirements. I would like to make progress now on all of these fronts.

By phrasing the reservations this way, President Reagan sought to accommodate European concerns, surfaced during NATO consultations, about eliminating INF from Europe and its impact on Flexible Response, and about the need to temper public appeals for eliminating nuclear weapons by a realistic appreciation of their role in deterrent strategy. But Gorbachev's initiative changed the climate of

negotiations from private talks to "public diplomacy," resulting in dramatic but ambiguous proposals with broad public appeal and political pressure to respond quickly – a process that engaged both sides over the next 2 years. Although Gorbachev's public appeal for "global disarmament" was a master stroke, Reagan's swift response neutralized much of the public impact and showed that the United States was ready to pursue negotiations on these new terms.

In June 1986, the Soviet Union demonstrated flexibility in its previous stance on SDI when it made a new proposal in Geneva, in effect conceding that research, development, and testing of SDI components could proceed if confined to the "laboratory" and if the United States would agree not to withdraw from the Anti Ballistic Missile (ABM) Treaty for a certain time, thus removing the major roadblock to any progress in the strategic arms reduction talks portion of the negotiations. In a letter to Reagan that same month, Gorbachev stated his willingness to compromise on INF. During bilateral discussions that summer in preparation for the sixth round of talks in Geneva, Soviet representatives expressed interest in an interim INF agreement limiting each side to 100 warheads in Europe and confirmed that the independent British and French nuclear forces would not be an obstacle (the compromise hinted at by Gorbachev), but rejected the total elimination of INF sought by the United States. Thus, the United States announced a new proposal for an interim INF agreement on 18 September when the Geneva talks resumed. It consisted of the following points: global limit of 200 INF warheads for each side (Soviet position agreed to equal global limits but at higher level by freezing INF deployed in Asia); subceiling of 100 warheads within range of Europe for each side (as proposed by Soviets); collateral constraints on short-range INF (Soviet position agreed on need for constraints but insisted on covering short-range INF and tactical battlefield nuclear weapons in a separate round of talks after a long-range INF agreement); effective verification, including on-site inspections as necessary (Soviets agreed); and interim agreement to remain in effect until superseded by a subsequent agreement on further reductions (Soviets continued to suggest a "temporary" agreement of short duration). The United States also proposed that the mix of long-range INF after reductions in Europe could be discussed further, but insisted that Pershing II must constitute part of the U.S. force. (The Soviet position all along had been elimination of Pershing II, with the INF remaining in Europe after reductions consisting only of GLCMs on the U.S. side and SS-20 missiles on the Soviet side.)

The Reykjavik meeting in October 1986 took place at the request of Gorbachev as part of the preparatory effort for the planned summit meeting in the United States. It was intended as an informal private meeting to assess the situation and "work out some clear instructions designed to achieve progress in some questions relating to nuclear arms – progress sufficient for attaining substantial results." Much of the consternation and confusion about what was and what was not said during this meeting pertains to the strategic arms and SDI issues. With regard to INF, the results were clear and unambiguous. Both leaders agreed in principle on the following elements of a draft INF agreement: elimination of all long-range INF in Europe; global limit of 100 long-range INF warheads outside Europe for each side; freeze on short-range INF missiles and subsequent negotiations on reductions and residual levels; and verification measures to include a data exchange on numbers before and after reductions, on-site monitoring of missile destruction, and monitoring of missile factories. This agreement was compatible with the U.S. proposal of 18 September 1986 except for the elimination of all long-range INF in Europe, to which President Reagan agreed without first consulting the NATO allies, but about which they were informed immediately afterwards.

In the aftermath of Reykjavik, the Soviets attempted to relink progress in INF negotiations to progress in space defense negotiations, reversing their earlier position and impeding further progress in 1986. There was also growing unease in Europe, where the governments had always viewed the "zero" option as a political maneuver to pacify those opposed to NATO INF deployment, not as a realistic proposal that the Soviets would ever accept. They were now faced with the implications for Flexible Response and thus became more concerned about the need to link nuclear and conventional arms control negotiation efforts because of Soviet conventional superiority. These concerns had been exacerbated by the apparent progress in the strategic arms reduction talks toward deep reductions. These same concerns were shared by the NATO military command which complained it had not been sufficiently consulted. Unfortunately, the conventional arms control efforts were not succeeding. In late October, President Reagan signed NSDD 250, establishing the final Reykjavik positions as the new baseline for negotiations and providing new instructions for the negotiating teams in the next round starting in January 1987.

In February 1987, Gorbachev resolved the "linkage" roadblock by agreeing to proceed toward an INF agreement in accordance with the Reykjavik formula without first resolving the differences regarding SDI. The United States then responded by proposing a draft agreement with the following refinements to the Reykjavik formula: the Soviet Union would station its remaining 100 warheads out of range of both Western Europe and Japan; short-range INF missiles would be frozen by blocking any additional deployments by the Soviets of such missiles (defined as 500 km – 1,000 km range); and the United States would have the right to match the number of deployed short-range INF missiles.

The short-range INF constraint, however, immediately became an issue because of the way the U.S. proposal impeded the ongoing Soviet modernization of its short-range INF capability. This modernization included two mobile missile systems with one warhead per missile: the SS-12 Mod (also known in the West as SS-22), an upgraded version of the SS-12 Scaleboard; and the SS-23, fielded in 1980 to replace the tactical-range Scud-B. While the SS-12 replacement had been completed in 1986, the Scud-B replacement was still in progress, which explains Soviet insistence on combining tactical battlefield systems and short-range INF under a common ceiling (thus permitting them to continue one-for-one replacement of the obsolete Scud-B with the more capable SS-23) in contrast to the U.S. proposal which would block further SS-23 deployments.

The Soviets also balked at U.S. insistence on the right to match any agreed ceiling on short-range INF missiles; the system earmarked for this purpose was of course the Pershing IB. In the April bilateral meetings in Moscow, the Soviets offered to include short-range INF in the Reykjavik formula, by eliminating all INF ground-based ballistic missiles with a range of 500 km – 5,500 km from Europe, leaving each side 100 missiles outside the range of Europe (U.S. missiles in Alaska, Soviet missiles in Asia). This offer looked very attractive to the United States because it had no similar systems deployed. (The Pershing IA is a dual-key system that is owned and operated by the West Germans with the nuclear warheads under U.S. control.) This offer amounted to a Soviet concession made to conclude the INF agreement. In consultations with NATO, however, the Soviet offer and U.S. inclinations to accept it predictably caused much concern as it would further reduce the credibility of NATO's nuclear deterrence by foreclosing the fielding of Pershing IB or other INF systems.

All U.S. offers to compensate by increasing the number of tactical battlefield nuclear systems were rejected by the FRG because of the political objections expected from such a NATO decision to deploy additional nuclear systems in West Germany at the same time that the Soviet Union was playing its public diplomacy to the utmost with recurring proposals for a "nuclear-free world." The FRG was more interested in reducing those tactical battlefield systems than in reducing INF; but other NATO allies, fearing those suggestions might ultimately lead to elimination of tactical battlefield systems too, insisted that all future negotiations on that category of missiles be ruled out.

This friction within NATO continued into the May 1987 NPG meeting in Stavanger, Norway, that had been designed to develop a NATO response and frame a strategy to maintain NATO's nuclear deterrent. The meeting demonstrated a widespread sense of insecurity among all European NATO members with the pace of disarmament proposals, their impact on NATO, and the trend toward denuclearization of NATO. Among the options discussed by Defense Secretary Caspar Weinberger and Joint Chiefs of Staff Chairman Admiral William Crowe were setting a minimum limit on short-range INF rather than accepting zero; deploying additional F-111 nuclear strike aircraft to Great Britain; dedicating a number of the new F-15E to the nuclear mission role; equipping the new Army Tactical Missile System with nuclear warheads; deploying GLCM with conventional warheads to be converted to nuclear warheads if hostilities were to break out; converting Pershing II (Pershing IB) to a range below 500 km (300 miles); and adding other tactical battlefield systems such as Follow-on Lance. As far as is publicly known, no specific decisions were made at that meeting.

As of mid-July 1987, the only U.S. response to Gorbachev's April proposal was that it was "under consideration." The NATO differences were smoothed over in the NATO foreign ministers meeting in late June with a commitment to eventually pursue talks on tactical battlefield missiles, but U.S. officials made clear that such talks would have a low priority.

Also in July, the INF negotiations in Geneva reached another impasse: the verification issue could not be resolved with each side keeping 100 long-range INF warheads and their required missiles and launchers. The U.S. viewpoint was that this would leave in place the infrastructure to support more than the 100 allowed, thus making verification extremely difficult; further, the United States rejected

Soviet on-site inspections at test ranges and storage facilities in the United States. This problem again was resolved by Gorbachev in a late July public proposal to eliminate everything without holding back 100 warheads on each side: the "global double zero" option. His proposal, however, included for the first time explicit mention of the Pershing IAs to be destroyed by the United States along with Pershing IIs and GLCMs in return for the Soviets destroying all SS-20, SS-12/22, and SS-23 missile systems. Previously, that point had been left vague in public statements and a solution presumably had not been worked out in the Geneva talks because the Pershing IA was not a U.S. system. A compromise offered by the United States to eliminate this roadblock by pledging not to modernize the system when it became obsolete by 1990 was strongly rejected by the Soviets, who insisted that the Pershing IAs had to be destroyed as part of any INF agreement.

Public diplomacy continued through late July and August putting pressure on the United States and particularly the FRG for blocking this "generous" Soviet agreement to remove all INF systems from the world. Although the United States left the decision up to West Germany, it was clearly viewed as the single roadblock to concluding an agreement that the United States wanted and had pursued since 1981. Thus, in late August 1987, Chancellor Kohl dropped his objections and agreed to scrap the Pershing IA as part of a superpower agreement on INF. A variety of miscellaneous problems were worked out during bilateral talks in Washington, D.C., during September. On 18 September, the two sides announced that an agreement in principle had been reached. The INF treaty was signed in December and subsequently ratified in 1988.

Allied Concerns

Reactions to the INF accord are mixed. The optimistic viewpoint, shared by politicians and arms controllers, is that the INF accord will be the first step toward a global reduction of nuclear weapons; it is the first treaty between the two superpowers that will actually reduce, not limit nuclear weapons and it does so by eliminating an entire category of weapons, land-based nuclear-armed missiles in the 500 km–5,500 km range. The pessimistic viewpoint, shared by some defense officials, strategic experts, and NATO military officers, is that the accord will reduce the credibility of NATO's nuclear deterrence of conventional war; it will be the first step "on the slippery slope of denuclearization" of Europe and thereby will expose

Western Europe to Soviet intimidation; and, because of Warsaw Pact conventional superiority over NATO, it will increase the risk of conventional war in Europe.

Objectively, the INF accord leaves NATO with a token theater nuclear force: approximately 1,650 nuclear artillery shells; about 650 Lance tactical battlefield missiles for 162 launchers; 1,700 nuclear bombs for aerial delivery; 40 Poseidon sea-based missiles with 400 warheads; and the independent nuclear forces of France and Britain that are essentially reserved for national purposes. In effect, the INF accord sets the clock back 20 years, with the U.S. central strategic weapons providing virtually all of the deterrent to conventional war in Europe, and reopens all the resultant credibility gaps that the United States and NATO tried to close with the adoption of Flexible Response in 1967. The single, but key, difference from the 1960s is that now a condition of strategic parity exists, combined with a growing conventional superiority of the Warsaw Pact. A sense of *déjà vu* is inescapable and the recipe for what needs to be done remains the same: *credible nuclear deterrence at the theater level must be restored and conventional defense must be enhanced.*

Although there is no reason yet for predicting the "uncoupling" of NATO's defense from the U.S. nuclear guarantee, the allies fear that the removal of INF may be the starting signal for gradual U.S. troop withdrawals from Europe (as expressed, for example, in the UK Ministry of Defense White Paper of 6 May 1987). In contrast, however, the INF treaty has focused attention on the conventional imbalance in Europe. Unfortunately, the INF accord was not linked to an agreement to correct that imbalance; furthermore, it also precludes ground-launched missiles with conventional warheads in the intermediate range — an area in which the United States has a substantial technological advantage over the Soviet Union. Clearly, political rather than military requirements drove the entire INF negotiation process. Without conventional reductions by the Warsaw Pact, NATO will need to undertake a substantial rebuilding of its conventional forces, but its ability to do so is doubtful in a period of declining defense budgets and unfavorable demographics. It will have to make major structural changes in order to do more with less.

Additionally, most observers agree that NATO's theater nuclear capabilities must be increased to compensate for INF withdrawals. General John R. Galvin, the current SACEUR, insists the 1983 Montebello, Canada, decisions be implemented especially regarding the follow-on to the Lance missile. However, deployment of that system on West German soil is encountering serious political objections in the

INF aftermath. Other options include various sea-based schemes and additional nuclear strike aircraft.

EPILOG

The purpose in recounting this record of arms control efforts is to illustrate that current and anticipated arms control agreements are not adequate substitutes for a credible conventional defense capability in NATO.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION <i>Unclassified</i>			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION / AVAILABILITY OF REPORT "A" Approved for public release; distribution unlimited.		
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S) LMI-IR702R4			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION Logistics Management Institute		6b. OFFICE SYMBOL (if applicable)		7a. NAME OF MONITORING ORGANIZATION	
6c. ADDRESS (City, State, and ZIP Code) 6400 Goldsboro Road Bethesda, Maryland 20817-5886			7b. ADDRESS (City, State, and ZIP Code)		
8a. NAME OF FUNDING / SPONSORING ORGANIZATION OASD(P&L)		8b. OFFICE SYMBOL (if applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER MDA903-85-C-0139	
8c. ADDRESS (City, State, and ZIP Code) The Pentagon, Room 3E808 Washington, DC 20301-8000			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
			WORK UNIT ACCESSION NO.		
11. TITLE (Include Security Classification) Logistics Implications of Maneuver Warfare Volume 4: Arms Control					
12. PERSONAL AUTHOR(S) Frans Nauta					
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM _____ TO _____		14. DATE OF REPORT (Year, Month, Day) 1988 September	
15. PAGE COUNT 50					
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	AirLand Battle, Maneuver Warfare, Logistics, NATO, Warsaw Pact, Conventional Defense, Arms Negotiations		
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
<p>This report examines the logistics implications of AirLand Battle, a new maneuver-oriented operational concept being adopted by the U.S. Army. The examination discusses the application of AirLand Battle in the NATO environment, details the need for NATO to shift toward adopting such a concept, and identifies the specific logistics improvements that are required to assure its success.</p> <p>Volume 1 sets the stage for examining AirLand Battle doctrine and lays out the focus and scope of the study.</p> <p>Volume 2 reviews NATO's defense posture, including its operational concepts and capabilities.</p> <p>Volume 3 describes the military command structure, operational concepts, and capabilities of the Soviet Union.</p> <p>Volume 4 summarizes the various arms control negotiations that have taken place between East and West to solve peacefully NATO's security problem.</p> <p>Volume 5 illustrates the need for NATO to adopt a maneuver-oriented defense posture if it is to maintain a credible conventional defense.</p> <p>Volume 6 details the specific logistics improvements that are required to support maneuver defense in a NATO environment.</p>					
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION		
22a. NAME OF RESPONSIBLE INDIVIDUAL			22b. TELEPHONE (Include Area Code)		22c. OFFICE SYMBOL